Million $ Match - Give Now to Double the Impact

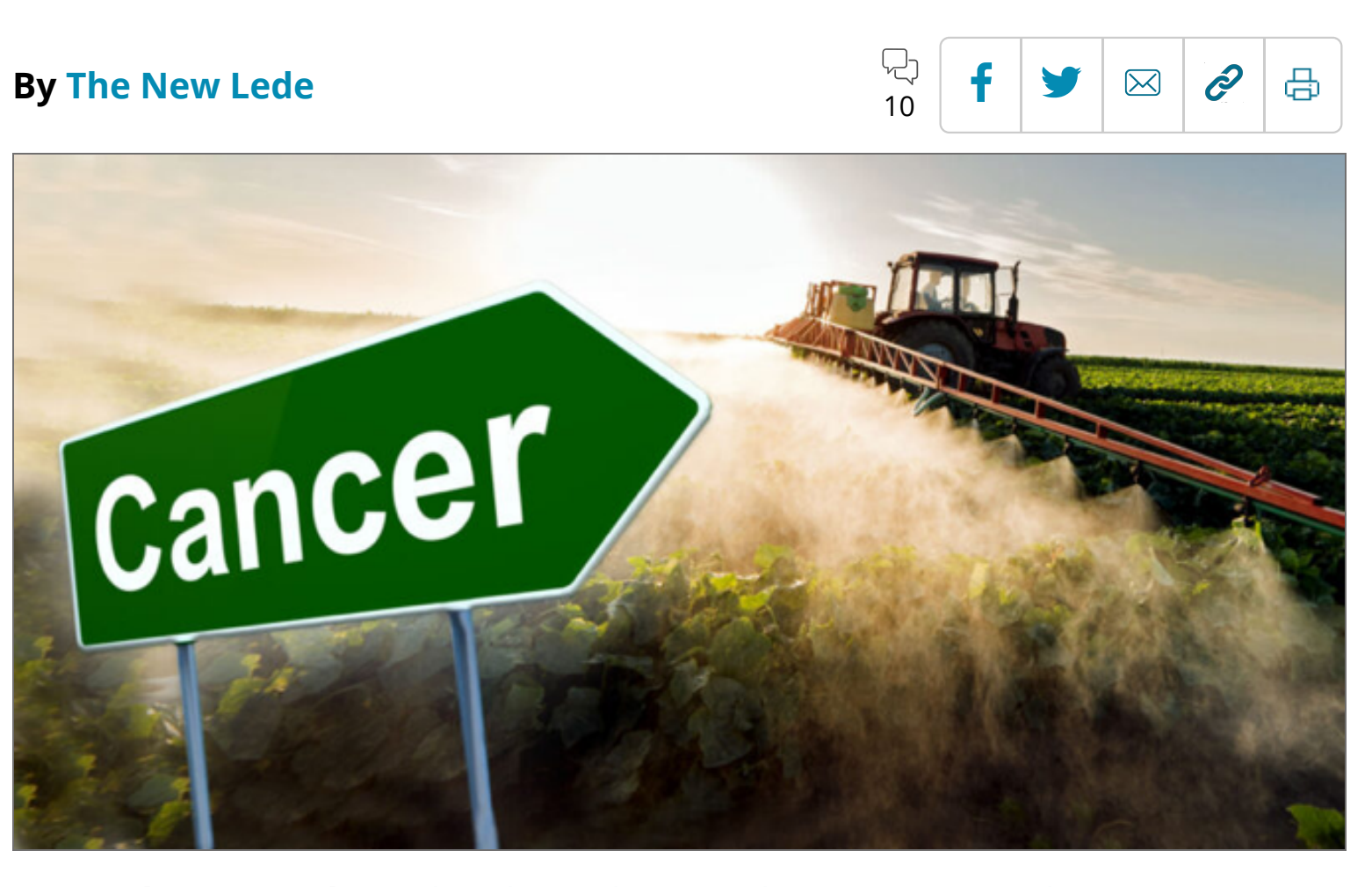
09/18/23 • BIG CHEMICAL › VIEWS

'Cancer Road': Did Industrial Farming and Fertilizers Kill These People?

A growing number of peer-reviewed medical studies have linked exposure to nitrates in drinking water to elevated incidences of cancer. Nitrates commonly flow into well water and other water sources as runoff from fields treated with commercial fertilizer and livestock manure.

By The New Lede

10



Miss a day, miss a lot. *Subscribe to The Defender's Top News of the Day.* ***It's free.***

By Keith Schneider

It was a hot afternoon in mid-July and 60-year-old Brian Bennerotte was making a pilgrimage of sorts, navigating a shotgun-straight, gravel road south of Minneapolis on a journey through a landscape stitched with crop and livestock farms as far as the eye can see.

Bennerotte is one of only three surviving members of a family who farmed for three generations along a mile-long stretch of County Road B. As a long-haul truck driver, Bennerotte rarely gets back here. But with a visitor at his side, he finds his way.

From the passenger seat of a rented vehicle, he scans both sides of the road, then points to a dust-scoured barn leaning into the wind. The building is all that remains of his family's farmstead, which once encompassed 200 acres and a home large enough for Bennerotte's parents to raise five boys and a girl.

Down the road a bit further, he recognizes neighboring properties: There is the Glarner farm, the Spreiter farm and the Serie farm. All are connected by circumstances of geography, topography, agriculture and social commerce.

All are also joined by disease and death.

Among the four families who lived for decades along County Road B, 12 people developed cancer and seven died.

Bennerotte was one of three people who developed lymphoma. The disease nearly killed him in 1983 when he was 20 years old. His father and three brothers would not survive their own bouts with cancer.

For some, County Road B has a different name: They call it Cancer Road.

"Every family along here was affected. Every one," said Bennerotte.

Though the causes of the cancers are not proven, suspicion centers on elevated levels of nitrates that have contaminated the drinking water for County Road B families. Just as they do throughout U.S. farm country, nitrates commonly flow into well water and other water sources as runoff from fields treated with commercial fertilizer and livestock manure.

Over the last decade, a growing number of peer-reviewed medical studies have linked exposure to nitrates in drinking water to elevated incidences of cancer.

Many of the County Road B cancers — breast, blood, colon, lymphoma — have been specifically associated in medical studies in the U.S. and overseas with exposure to nitrates in drinking water.

Wells used by each of the families contained nitrate levels well above what authorities consider safe, according to Dodge County water monitoring data.

"It's eyebrow raising that you have this cluster in this area where you have high levels of nitrates and kidney cancers and bladder and breast cancers," said Paul Mathewson, science program director at the environmental advocacy group Clean Wisconsin.

He acknowledged that it is often difficult to pinpoint specific causes for specific cancers, but said the County Road B cases show a strong link.

"Those are some of the cancers that have been associated to increased risk with respect to nitrate contamination," he said.

Mathewson is the lead author of a 2020 peer-reviewed study that identified nitrate contamination in drinking water as the probable cause of nearly 300 cases a year of colorectal and other cancers in Wisconsin.

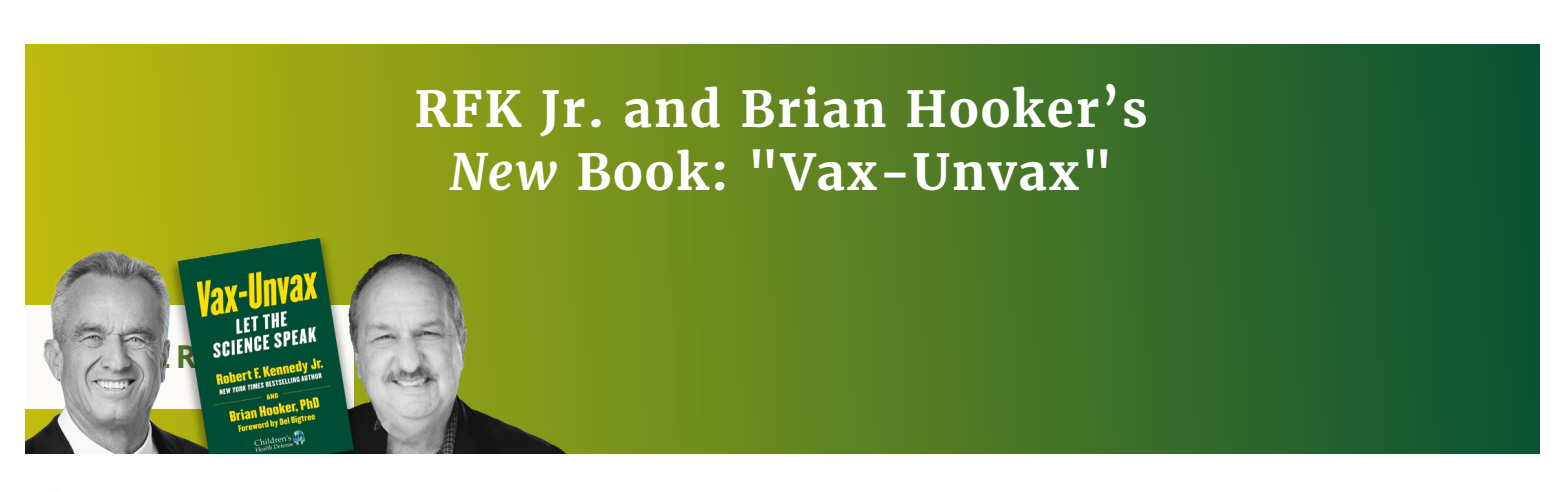
The concerns have broad implications for all of U.S. farm country. The U.S. Geological Survey has found that 22% of private wells in rural areas exceed the 10 parts per million (ppm) safety limit for nitrates.

In Minnesota alone, authorities in 2017 found elevated levels of nitrates in 80 public water systems.

In Iowa, 55,000 drinking water wells were contaminated with elevated nitrate concentrations, according to 2017 data. Private water wells serve about one-third of Wisconsin families and last year state authorities found 10% of them exceed the 10 ppm nitrate safety limit.

And in Nebraska, the U.S. Environmental Protection Agency (EPA) reported in 2018 that groundwater beneath almost a fifth of Nebraska, over 13,000 square miles, is contaminated with nitrates at more than 5 ppm, the concentration many scientists now consider as the baseline level for causing health concerns.

Water quality data analyzed by the Environmental Working Group, a Washington-based research and advocacy group, found in 2020 that one in four residents of Illinois, Iowa, Kansas, Nebraska and Wisconsin — 6.9 million people — were drinking nitrate-contaminated water from community water systems.


RFK Jr. and Brian Hooker's *New* Book: "Vax-Unvax"

The cancer connection

Nitrogen is considered a necessity by most U.S. corn growers, who see the fertilizer as a key tool for boosting yields and harvesting bumper crops.

But commercial nitrogen fertilizer and nitrogen-rich livestock and poultry manure are the leading sources of the nitrate contaminants — formed when nitrogen combines with oxygen — that drain into surface and groundwater, according to state environmental and agriculture agencies.

The amount of nitrogen applied to corn has increased 120 million pounds annually since 2000, according to the U.S. Department of Agriculture (USDA).

And the amount of nitrogen-rich and untreated liquid and solid manure from livestock being spread on farmland — most of it in the Midwest — grew to 1.4 billion tons by 2018, 300 million more tons than in 2007, USDA data shows. As much as 70% of the nitrogen applied to farmland, according to many studies, leaked off fields and drained as toxic nitrates into the region's waters.

Exposures to nitrates in drinking water have long been known to pose a serious threat to infants because the presence of nitrates inhibits the ability of blood to carry oxygen.

In 1962, U.S. health authorities set 10 parts per million as the safe limit for nitrates in drinking water to prevent "blue baby syndrome."

The science of tying nitrates to cancer has been building over the last 20 years and continues to build.

The Centers for Disease Control and Prevention (CDC) says that when nitrates are ingested, they react with proteins and enzymes to form a group of chemicals called N-nitroso compounds, "which are known to cause cancer in animals and may cause cancer in humans."

In 2001, researchers at the University of Iowa evaluated data from a long-term study of more than 20,000 women in Iowa and found increased risks of bladder and ovarian cancers associated with elevated nitrate levels in public drinking water supplies used by the women.

More recently, medical researchers have been conducting epidemiology studies looking at large groups of people, what they're exposed to and their rates of cancers. The results, some scientists say, indicate that exposure to nitrates in drinking water poses a health threat at much lower concentrations than the 10 ppm federal drinking water standard.

A 2018 peer-reviewed paper by National Cancer Institute researchers and other scientists evaluated 30 epidemiology studies of low-level exposure to nitrates in public drinking water systems, finding that many studies "observed increased risk with ingestion of water nitrate levels that were below regulatory limits."

While noting that the number of studies "are still too few to allow firm conclusions about risk," the researchers reported that the "strongest evidence for a relationship between drinking water nitrate ingestion and adverse health outcomes … is for colorectal cancer, thyroid disease, and neural tube defects."

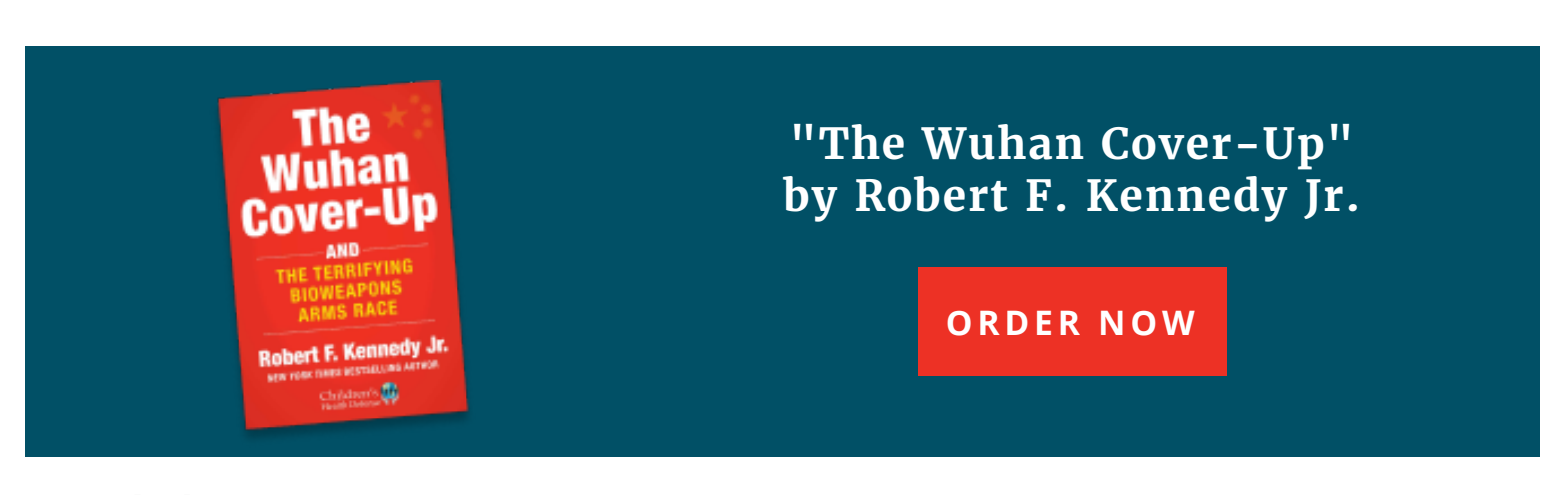
In 2019 the Environmental Working Group published a peer-reviewed study that found that exposure to nitrate in drinking water was causing over 12,000 cancer cases annually in the U.S.

"In the past decade or so there's been a lot of new research making a strong, compelling case that even at nitrate levels that are much lower than 10 parts per million you're seeing these increased risks," said Mathewson. "There needs to be greater awareness. The science is out there."

That view is not entirely universal.

The Fertilizer Institute, the trade organization for the $27 billion U.S. commercial fertilizer industry, issued this statement in 2017: "The US Agency for Toxic Substances and Disease Registry does not characterize nitrate as a carcinogen," and added that the EPA expressly notes:

> "Conflicting results across studies, and design limitations in a number of epidemiological studies that have investigated associations between nitrate or nitrite exposure and cancer."


"The Wuhan Cover-Up" by Robert F. Kennedy Jr.
ORDER NOW

Corn belt cancers

Adding to the evidence is data showing that rates of cancer in some Corn Belt states are higher than the overall U.S. incidence rates for cancer.

Of the 15 states with the highest cancer incidence, Iowa, the nation's top corn-growing state, ranked second, led only by Kentucky. Four other farm belt states — Minnesota, Wisconsin, North Dakota and South Dakota — are in the top 15, according to the data from the CDC.

"I was definitely surprised by that," said Mary Charlton, professor of epidemiology at the University of Iowa and director of the Iowa Cancer Registry. "I don't think anybody thought of ourselves as being a very high cancer state."

As science builds tying nitrates to cancers, children's health is a key concern. Pediatric cancer is now more common in Nebraska than anywhere west of the Mississippi River, according to researchers at the University of Nebraska Medical Center.

The cases are associated with Nebraska watersheds that have high levels of nitrate or atrazine — a weed killer — in surface and groundwater. In Aurora, Nebraska, one particularly hard-hit town, seven children were diagnosed with cancer from 2005 to 2013. Five died.

"Our incidence of pediatric cancer is significantly higher than the surrounding states," said Eleanor Rogan, chair of the university's Department of Environmental, Agricultural, and Occupational Health.

Rogan continued:

> "We've mapped the three most prevalent types of pediatric cancer in Nebraska and they are central nervous system cancers and brain tumors, that are really driving this high incidence."

A tragic toll

Along Minnesota's County Road B, the list of area residents struck by cancer is long.

On one farm, Irene Spreiter developed breast cancer, and her son, Darren, was diagnosed with Hodgkin's lymphoma, a cancer of the lymph system, when he was 11.

Christine Hachfeld moved onto the farm as well, only to then develop multiple myeloma.

Down the road from the Spreiter farm, neighbor Audrey Serie died of cancer in 2021.

Neighbor Bonnie Glarner also died in 2021 after developing breast cancer in the mid-1970s at age 35. Glarner's son, Scott Glarner, developed non-Hodgkin lymphoma in 2005 at the age of 43 but survived and moved away from County Road B.

"People talked about it," said Glarner, who works as postmaster. "People questioning, what's up with the water? Because of all the cancer that people had up and down that road."

More than any other County Road B family, cancer wrecked the Bennerotte family, taking the lives of patriarch Howard Bennerotte and three of his five sons. A daughter and fourth son developed cancer but have survived.

Howard farmed on County Road B until dying of kidney cancer in 1983 at the age of 64. Son Chuck Bennerotte became the principal farm manager following the death of his father but died of bone cancer in 2000 at age 57. Chuck's wife, Joanne, also developed bone cancer and died in 2015.

Another son, Gary, developed colon cancer that led to his death in 2006 at age 65, while Wesley, the youngest brother of the clan, developed leukemia, a blood cancer, and died in 2019 when he was 67.

The family's lone daughter, Myrna, also developed cancer, but has so far survived it and is living in Michigan.

Stuart Bennerotte, like his brother Brian, is also a cancer survivor. He developed a benign tumor on his pancreas in 2003 when he was 57, and later was diagnosed with prostate cancer for which he is undergoing treatment.

Dodge County officials conducted nitrate monitoring for the drinking water wells used by those County Road B families from 1990 through 2015, finding that nitrate levels in the Glarner family well consistently tested at 11 ppm from 2002 to 2011.

The highest nitrate concentrations, 25 ppm, were found in 2001 in the Spreiters' well. Nitrate concentrations in the Bennerottes' well were 8 ppm in 1990 and 7.1 ppm in 2013.

When Brian Bennerotte's tumor was discovered in the early 1980s, it was wrapped around his heart and other vital organs.

Doctors at the Mayo Clinic in Rochester, 40 miles away, saved his life by exposing the tumor to massive doses of radiation but warned Bennerotte that his heart and lungs would sustain permanent damage that would affect the rest of his life. He's been in and out of hospitals ever since for heart surgery and other urgent health issues.

"The doctors told me they had to save my life," he said. "I live with it. My father. My brothers. They didn't."

Originally published by The New Lede. Co-published with Circle of Blue.

Keith Schneider is the senior editor and chief correspondent for Circle of Blue.

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the views of Children's Health Defense.

Subscribe to The Defender – It's Free!
First Name..
Last Name..
Email..
SIGN UP

SUGGEST A CORRECTION

The New Lede
The New Lede is a news initiative specializing in coverage of environmental issues that are critical to the health and well-being of people everywhere.

Sign up for free news and updates from Children's Health Defense. CHD focuses on legal strategies to defend the health of our children and obtain justice for those injured. We can't do it without your support

Republishing Guidelines

Children's Health Defense Comment Policy
We welcome relevant and respectful comments. Off-topic comments may be removed.
Please read our Comment Policy before commenting.
Got it

10 Comments

Login ▾

Join the discussion…

LOG IN WITH

OR SIGN UP WITH DISQUS ?

Name

♡ • Share

Best Newest Oldest

Ty Shlackman
9 days ago
Nitrates aren't the only thing poisoning these people. They're also poisoned with glyphosate and GMOs because all the corn being grown is a genetically modified crop which is sprayed with glyphosate. There's also plenty of DDT in the environment from past usage.
6 0 Reply • Share ›

BChristine
10 days ago
This article depicts a place where cancer overtook innocent people. How many places similar to this are there? I would guess many. It's truly sad.
Is there anywhere in the US that's safe? I don't think so. It seems every region has varying degrees of toxicity in the water supply and soil, along with chemical and industrial plants polluting the air.
4 0 Reply • Share ›

Todd Payne → BChristine
4 days ago
You are correct that everyone is affected by these agriculture issues. City dwellers are primarily affected by these agriculture chemicals in our diet. However, Ag work is especially toxic. It's really a matter of just naming a poison out of so many. From an epidemiologist 's point of view determining which poisons are the worst will help everyone. Everyone has a stake in getting the worst poisons out of agriculture. Finding a solution with so much money behind the use of agricultural chemicals is compounded by the fact that ALL government agencies are captured by the industries they are tasked to regulate. Just another reason why we need RFKJR for our president.
3 0 Reply • Share ›

Norseman
10 days ago
Cancer has been around for a long time. Even the Egyptian mummies show signs of cancer. What caused cancer prior to man-made fertilizers? Manure has been used for fertilizer since the dawn of time. Fertilizers and pesticides are the "whipping boy" for all of the world's evils. The bottom line is that nearly all of us would starve to death if it weren't for man-made fertilizers and genetically modified seeds. "Back to nature" techniques don't work nearly well enough. I have been in agriculture for a long time. I remember the days of 65 bushel an acre corn production. We get nearly 300 bushels per acre these days. I will take food production with fertilizers and pesticides. If it was as bad as you say, we'd all be dead by now.
1 5 Reply • Share ›

Ty Shlackman → Norseman
9 days ago edited
Cancer didn't exist in ancient times. Only non-cancerous benign tumors existed in ancient times because herpetic viruses weren't causing cancer in ancient times like they are now and have been since the industrial revolution. Growing mono crops to maximize profits destroys the land causing soil erosion. GMOs have no nutritional value because any nutrients they contain are unusable by the human body because they don't come from nature and are foreign to the planet. No one was starving before GMOs from a lack of food production. The only reason people starve is if they're too poor to afford to buy food. Edible plants grow all over the planet without any genetic engineering.
9 0 Reply • Share ›

Tracy Cox → Norseman
10 days ago
Small family farms and homesteads are making a comeback for good reason. Large scale agriculture relies heavily on big corporations that deceive consumers. They know their products are harmful but it is "profit over people". We are farmers but small scale and conscientious about what we put on our fields because it ultimately goes in our bodies. To each their own.
7 0 Reply • Share ›

BChristine → Norseman
10 days ago
Many of us are dead. Many have health issues. To say you'd take food production with fertilizers and chemical pesticides is just plain ignorant. That industrial-type farming is what has greatly contributed to the deterioration of health over the decades. Are you familiar with Regenerative and Biodynamic Farming? These practices are not only better for the environment, soil, air - but they make for healthier animals, which equals healthier humans.
6 0 Reply • Share ›

jann → Norseman
3 days ago
Norseman, sounds to me like you're in the right place if you're willing to open your eyes and ears. You might want to listen to RFK Jr.'s Roundtable on Farming.
https://rumble.com/v34c6o5-...
1 0 Reply • Share ›

Christine → Norseman
4 days ago
Norseman, I live in agricultural land in MN. It is difficult to imagine how something different could possibly meet the demands that the current food systems appear to be meeting. Still, when you need to do something, human resourcefulness and creativity seem to always fill the gap.

Imagine carrying a foundational assumption: poison has no place with food. Or maybe: if I wouldn't poison my parents or my children, then that poison is not acceptable for anyone.

My grandparents were farmers. My grandfather died of cancer before I could ever meet him. If my family had been able to give him a chance to live out a proper lifespan by denying usage of toxic agricultural amendments, I think they would have easily made the decision that the potential to have him live a proper life is worth the required faith to venture forward without farming in the way they had until then known. It is worth it. And what good is faith if you cannot make an effort for what really matters?

In Central MN we have a really great network with organizations like the Sustainable Farming Association who host farm visits, workshops, and
see more
1 0 Reply • Share ›

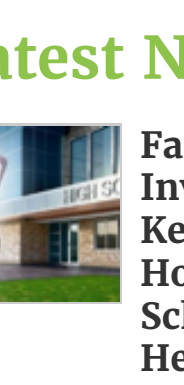
USAMNESIA
9 days ago
It will take some time to read through the site. Make sure to read all the information including research papers.
https://www.fenbendazole.org/
0 0 Reply • Share ›

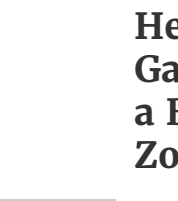
Subscribe • Privacy • Do Not Sell My Data

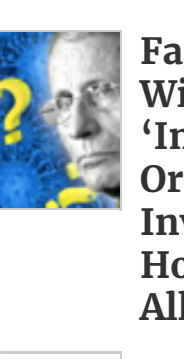
Donate Now

You make the difference.

Latest News


Family Investigated for Keeping Teen Home After School-Based Health Center Gave 17-Year-Old a Bag of Unlabeled Zoloft

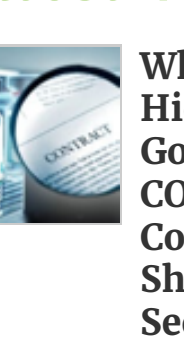

Fauci Secretly Met With CIA to 'Influence' COVID Origins Investigation, House Republican Alleges


Vaccines Grown in Lettuce? Rep. Massie Asks House to Bar FDA, USDA From Funding Transgenic Edible Vaccines

MORE NEWS

Latest Views

What Are They Hiding? Government COVID Vaccine Contracts Shrouded in Secrecy


The Global Food System Is Broken. Here's How to Fix It.

1950s Propaganda Exposes How Polio Vaccine Was Made

MORE VIEWS

Get FREE News & Updates!
First Name..
Last Name..
Email..
SIGN UP

Get Text Alerts
Sign up for breaking news from The Defender.
Currently only eligible for numbers in the U.S. and Canada.
1234567890
Phone
REQUIRED. Phone number must be in a standard 10-digit format: 1234567890 or 123-456-7890
CONTINUE

Children's Health Defense

Children's Health Defense® is a 501(c)(3) non-profit organization. Our mission is to end childhood health epidemics by working aggressively to eliminate harmful exposures, hold those responsible accountable and establish safeguards to prevent future harm. We fight corruption, mass surveillance and censorship that put profits before people as well as advocate for worldwide rights to health freedom and bodily autonomy.

THE DEFENDER IS AVAILABLE IN:
ENGLISH SPANISH PORTUGUESE GERMAN ITALIAN FRENCH

TAKE ACTION
DONATE FREE SIGN-UP BECOME A MEMBER

Donations are tax deductible to the full extent of the law. EIN #26-0388604

© 2016 - 2023 Children's Health Defense® • All Rights Reserved • Sitemap